

Nicolas Markey

☎ (+33) 2 99 84 22 76

✉ nicolas.markey@irisa.fr

🌐 <http://people.irisa.fr/Nicolas.Markey/>



IRISA – C212
Campus Universitaire de Beaulieu
263 Avenue du Général Leclerc
F-35042 Rennes cedex – France

Birth date: September 11th, 1976
French citizen

Curriculum Vitae

- ▶ **2016-** CNRS senior researcher at IRISA (*Institut de Recherche en Informatique et Systèmes Aléatoires*), UMR 6074, CNRS & INRIA & Univ. Rennes 1.
- ▶ **2004-2016** CNRS full-time researcher at LSV (*Lab. Spécification et Vérification*), UMR 8643, ENS Cachan & CNRS.
 - ▷ **2011: Habilitation thesis:** “Verification of Embedded Systems: Algorithms and Complexity”.
Reviewers: Eugene ASARIN, Thomas A. HENZINGER, Wolfgang THOMAS
- ▶ **2003-2004** INRIA Post-doctoral researcher at the Computer Science Department of *Université Libre de Bruxelles*, in Jean-François Raskin’s team “Formal Methods and Verification”.
- ▶ **2000-2003** “*Allocataire Moniteur Normalien*” (PhD student) in Computer Science at LIFO (*Laboratoire d’Informatique Fondamentale d’Orléans*).
 - ▷ **2003: PhD thesis:** “Temporal Logics for Verification: Expressiveness, Complexity, Algorithms”, supervised by François LAROUSSINIE and Philippe SCHNOEBELEN.
Reviewers: Ahmed BOUAJJANI, Colin STIRLING
- ▶ **1996-2000** Student at *École Normale Supérieure de Cachan*.
 - ▷ **2000:** “*D.E.A.*” in Computer Science (ENS Cachan & University Paris VII). Master’s thesis at LSV: “Complexity of temporal logics with past”, supervised by François LAROUSSINIE and Philippe SCHNOEBELEN.
 - ▷ **1999:** “*Agrégation*” in mathematics.
 - ▷ **1998:** “*Maîtrise*” in mathematics, university Paris 7.
“*Maîtrise*” in computer science, university Paris 7.
 - ▷ **1997:** “*Licence*” in mathematics, *École Normale Supérieure de Cachan*.

Research topics:

- formal verification (model checking) especially of real-time systems
- temporal logics for model checking
- games on graphs for the synthesis of complex systems
- optimal schedules in weighted automata

Publications : 20+ papers in international journals and 60+ papers in international conferences. The full list of my publications is given in the appendix.

Teaching

PhD. Schools

- *Temporal logics for multi-agent systems: expressiveness and algorithms*, introductory course at ESSLLI'15, joint lecture with François Laroussinie.
- *Real-time model checking*, course at the ARTIST school QMC'10 with Patricia Bouyer and Kim G. Larsen;
- *Timed Systems – Model Checking and Games*, course at summer school MOVEP'08;
- *Implementability of Timed Controllers*, course at summer school ETR'07, joint lecture with Franck Cassez;
- *Expressiveness of temporal logics*, introductory course at ESSLLI'06, joint lecture with François Laroussinie.

Lectures

- *Extensions of timed automata*, part 2 of course M2.8.2 (2nd year Master) at MPRI, Jan.-Feb. 2016;
- *Temporal logics*, part 2 of course M2.8 (2nd year Master) at MPRI, Winter 2013;
- *Timed and hybrid automata*, part 1 of course M2.8 (2nd year Master) at MPRI, Fall 2010;
- *Weighted timed automata*, part 2 of course M2.8 (2nd year Master) at MPRI, Fall 2008;
- *Branching-time temporal logics*, part 1b of course M2.8 (2nd year Master) at MPRI, oct. 2007;
- *Temporal logics*, part 1 of course M2.8 (2nd year Master) at MPRI, Fall 2006;

Master and PhD students

Post-docs

- Vincent Jugué, feb. 2016-sep. 2016 (co-advised with Patricia Bouyer);
- Amélie David, oct. 2015-aug. 2016
- Maximilien Colange, sep. 2015-aug. 2016 (co-advised with Patricia Bouyer);
- Mickael Randour, oct. 2014-sep. 2015 (co-advised with Patricia Bouyer);
- Raj Mohan Mattheplackel, may 2013-may 2015 (co-advised with Patricia Bouyer);
- Michael Ummels, jan. 2010-nov. 2011 (co-advised with Patricia Bouyer);
- Delphine Longuet, oct. 2008-sep. 2009 (co-advised with Patricia Bouyer);
- Thomas Brihaye, sep. 2006-aug. 2007 (co-advised with Patricia Bouyer).

PhD students

- Mauricio González, PhD student on “Dynamic games on graphs with applications to smart grids”, mar. 2016- (co-advised with Patricia Bouyer and Samson Lasaulce).
- Samy Jaziri, PhD student on “Quantitative analysis of weighted timed systems”, oct. 2015- (co-advised with Patricia Bouyer).
- Patrick Gardy, PhD student on “energy constraints in temporal logic”, nov. 2013- (co-advised with Patricia Bouyer).
- Daniel Stan, “randomized strategies in concurrent games”, oct. 2013-mar. 2017 (co-advised with Patricia Bouyer). PhD defended on 30 March 2017.
- Eleni-Maria Vretta. Not defended, jan. 2013-may 2013. (co-advised with Patricia Bouyer).
- Ocan Sankur, “robust verification of timed systems”, oct. 2010-may 2013 (co-advised with Patricia Bouyer). PhD defended on 24 May 2013.
- Romain Brenguier, “equilibria in timed games”, oct. 2009-nov. 2012 (co-advised with Patricia Bouyer). PhD defended on 29 November 2012.
- Arnaud Da Costa Lopes, “properties of multi-player games”, oct. 2007-sep. 2011 (co-advised with François Laroussinie). PhD defended on 20 September 2011.
- Ghassan Oreiby, “temporal logics for timed control”, oct. 2005-dec. 2008 (co-advised with François Laroussinie). PhD defended on 08 December 2008.

Visiting PhD students

- Simon Laursen, PhD student at Aalborg University (Denmark). 3-month visit (sep.-dec. 2014) on "average-energy constraints in weighted systems".
- Steen Vester, PhD student at DTU, Copenhagen (Denmark). 1-month visit (jul. 2013) on "symmetric games".
- Jörg Olschewski, PhD student at Aachen University (Germany). 6-month visit (mar.-sep. 2010) on "mixing qualitative and quantitative objectives in weighted games".
- Claus Thrane, PhD student at Aalborg University (Denmark). 6-month visit (feb.-aug. 2010) on "links between robustness and metrics in timed automata".

Master students

- Mauricio González, Master student on "Nash equilibria in partial-observation games", 2015 (co-advised with Patricia Bouyer and Samson Lasaulce).
- Samy Jaziri, Master student on "robust verification of weighted timed automata", 2014 (co-advised with Patricia Bouyer).
- Daniel Stan, Master student on "mixed Nash equilibria in concurrent games", 2013 (co-advised with Patricia Bouyer).
- Steen Vester, Master student on "equilibria in symmetric games", 2012 (co-advised with Patricia Bouyer).
- Ocan Sankur, Master student on "robustness and implementability of timed systems", 2010 (co-advised with Patricia Bouyer).
- Romain Brenguier, Master student on "equilibria in timed games", 2009 (co-advised with Patricia Bouyer).
- Arnaud Da Costa Lopes, Master student on "properties of multi-player games", 2007 (co-advised with François Laroussinie).
- Guylain Naves, Master student on "complexity of the reachability problem for two-clock timed automata", 2006 (co-advised with Patricia Bouyer).

Undergraduate students

- Samuel Dehouck, student at ULB (Brussels, Belgium), on "implementation of an algorithm for solving 1-clock priced timed games", jul.-oct. 2014.
- Bhargav N. Bhatt, master student at I.I.T. Kanpur (India), on "Nash Equilibria in Pushdown Games with Reachability Objectives", may-jul. 2014 (co-advised with Patricia Bouyer).
- Erwin Fang, student at ENS Cachan, on "multi-strategies in timed games", mar.-aug. 2013 (co-advised with Patricia Bouyer).
- Gabriel Renault, student at ENS Lyon, on "optimal multi-strategies", 2008 (co-advised with Patricia Bouyer).
- Mohamed Ghannem, student at National School of Computer Science of Tunis (Tunisia), on "computing optimal coalitions", 2007.
- Lionel Rieg, student at ENS Lyon, on "quantitative games and optimal coalitions", 2007.

PhD Defence committee

- Reviewer:
 - Thanh-Tung Tran: *Verification of timed automata: reachability, liveness, and modelling*. (PhD advisors: Frédéric Herbretau, Igor Walukiewicz (LaBRI, Bordeaux, France); defense: 4 November 2016)
 - Christophe Chareton: *Formal modelling of requirements and multi-agent temporal logics*. (PhD advisors: Julien Brunel, David Chemouil (ONERA, Toulouse, France); defense: 20 June 2014)
 - Marcus Gelderie: *Strategy machines: representation and complexity of strategies in infinite games* (PhD advisor: Wolfgang Thomas (RWTH, Aachen, Germany); defense: 6 february 2014).
 - Aleksandra Jovanović: *Parametric Verification of Timed Systems* (PhD advisors: Didier Lime, Olivier H. Roux (IRCCyN, Nantes, France); defense: 10 October 2013).
 - Jörg Olschewski: *Languages and strategies: a study of regular infinite games*

- (PhD advisor: Wolfgang Thomas (RWTH, Aachen, Germany); defense: 25 January 2013).
- Jury member:
 - Morgane Estievenart: *Verification and synthesis of MITL through alternating timed automata* (PhD advisors: Thomas Brihaye (U. Mons, Belgium), Gilles Geeraerts (ULB, Brussels, Belgium); defense: 15 September 2015).
 - Janusz Malinowski: *Algorithmes pour la synthèse et le model checking* (PhD advisor: Peter Niebert (LIF, Marseille, France); defense: 10 December 2012).
 - Martin De Wulf: *From Timed Automata to Timed Implementations* (PhD advisor: Jean-François Raskin (ULB, Brussels, Belgium); defense: 20 December 2006).
 - PhD advisor:
 - Daniel Stan: *Randomized strategies in concurrent games*.
 - Ocan Sankur: *Robustness in Timed Automata: Analysis, Synthesis, Implementation*.
 - Romain Brenguier: *Nash equilibria in concurrent games – Application to timed games*.
 - Arnaud Da Costa: *Propriétés de systèmes multi-agents*.
 - Ghassan Oreiby: *Logiques temporelles pour le contrôle temporel*.

Talks and seminars

- Conference presentations: FoSSaCS'01, FoSSaCS'02, EXPRESS'02, Concur'03, Concur'04, FORMATS+FTRTFT'04, QEST'04, FST&TCS'05, FST&TCS'06, FORMATS'07, TIME'08, FORMATS'08, FSTTCS'10, SIES'11, Highlights'13, FSTTCS'14, GandALF'15.
- Seminars: Dagstuhl (Dagstuhl, Germany), LACL (Créteil, France), RWTH (Aachen, Germany), DCIS (Konstanz, Germany), EPFL (Lausanne, Switzerland), LIAFA (Paris, France), LaBRI (Bordeaux, France), IRISA (Rennes, France), VERIMAG (Grenoble, France), ULB (Brussels, Belgium), OUCL (Oxford, UK), ANU (Canberra, Australia), ...
- Invited talks:
 - *Optimal strategies in weighted timed games: undecidability and approximation*, workshop WATA'16 (Aalborg, Denmark, Apr. 2016);
 - *Optimal strategies in weighted timed games: undecidability and approximation*, workshop AVERTS'15 (Bangalore, India, dec. 2015);
 - *Priced timed automata and games*, "GT Verif" annual days (Créteil, France, 15-16 2015);
 - *Temporal logics for multi-player games*, French Symposium on Games (Paris, France, May 2015);
 - *Temporal logics for multi-agent systems*, "formalisation des activités concurrentes" days (Toulouse, France, 16-17 April 2014);
 - *Robustness issues in timed models*, 12th International Workshop Quantitative Aspects of Programming Languages and Systems (QAPL'14) (Grenoble, France, 12-13 April 2014);
 - *Quantified CTL*, Nord-Pas-de-Calais/Belgium Congress of Mathematics (Valenciennes, France, Oct. 2013);
 - *Robust verification of timed systems*, journée industrielle DigiCosme (Saclay, France, Feb. 2013);
 - *Temporal logics for multi-agent systems*, journées nationales du GDR Informatique Mathématique (Lyon, France, Jan. 2013);
 - *Robustness in Real-Time Systems*, 6th IEEE International Symposium on Industrial Embedded Systems (SIES'11), special session on robustness (Västerås, Sweden, Jun. 2011);
 - *Verification of Multi-Agent Systems with ATL*, FNRS meeting on "Synthesis and Verification" (Brussels, Belgium, Oct. 2006);

Participation to projects

Running projects:

- Member of project ERC-StG-308087 EQualIS ("Enhancing the Quality of Interacting Systems") (2013-2019);

Past projects:

- Coordinator of the European project FP7-ICT-601148 CASSTING ("Collective Adaptive System Synthesis Using Non-zero-sum Games")(2013-2016);
- Member of project ANR-2010-BLAN-0317 ImpRo ("Implementability and Robustness") (2011-2014);
- Member (and local manager for CNRS) of the European project FP7-ICT-214755 QUASIMODO ("Quantitative System Properties in Model-Driven Design of Embedded Systems")(2008-2011);
- Member (and local manager for CNRS) of the European project ESF-Eurocores GASICS ("Games for Analysis and Synthesis of Interactive Computational Systems")(2008-2011);
- Member (LSV coordinator) of project ANR-06-SETI-003 DOTS ("Distributed, Open and Timed Systems") (2007-2011);
- Co-head of project IFR Farman TOAST2 ("Théorie des jeux, Outils de l'automatique, de l'Algorithmique et du Signal pour les Télécommunications") (2008-2009);
- Co-head of project IFR Farman TOAST ("Théorie des jeux, Outils de l'automatique, de l'Algorithmique et du Signal pour les Télécommunications") (2007-2008);
- Member of ACI CORTOS ("Control and Observation of Real-Time Open Systems") (2003-2006);

Conference organization, editorial committees

Steering Committee

- Steering committee member of the Young-Researcher School MOVEP (2012-);

Editorial board

- Former member of editorial board of journal *Technique et Science Informatique (Lavoisier)* (2012-2015);

Program Committees

- Program Committee Co-chair of conferences FORMATS'16, TIME'10;
- Program Committee Member of conferences ATVA'17, TACAS'16, RP'16, FORMATS'15, SR'15, RP'14, FORMATS'14, GandALF'14, SR'13, FSTTCS'12, FORMATS'12, GandALF'12, TIME'11, TIME'09, FORMATS'07, FORMATS'06.

Conference organization

- Organizer of the TIME'10 conference (Paris, France, Sep. 2010)
- Co-organizer of Dagstuhl seminar on *Non-Zero-Sum-Games and Control* (seminar 15061, feb 2015)
- Co-organizer of workshops Cassting'16 (Eindhoven, Netherlands), Cassting'14 (Grenoble, France), GASICS'12 (Newcastle, UK), GASICS'11 (Aachen, Germany, Sep. 2011), GASICS'10 (Paris, France, Sep. 2010) and GASICS'09 (Grenoble, France, June 2009)
- Member of the organizing committee (maintainance of web site and registration server) for conference FORMATS'06 (Cachan, France, Sep. 2006), winter school MOVEP'04 (Brussels, Belgium, Dec. 2004), workshop INFINITY'03 (Marseilles, France, Aug. 2003), summer school MOVEP'02 (Nantes, France, June 2002), conference CSL'01 (Paris, France, Sep. 2001), conference CAV'01 (Paris, France, July 2001).

Article reviews

- Article reviews for main conferences in theoretical computer science: LICS, FOCS, ICALP, STACS, Concur, FSTTCS, TACAS, FoSSaCS, MFCS, ...
- Article reviews for several journals: I&C, TCS, LMCS, Acta Inf., ToCL, FMSD, JCSS, IJFCS, IEEE TAC, IPL, ...

Animation and management activities

- Head of VASCO research group (formerly TEMPO) at LSV (2009-2016);
- Organizer of the VASCO internal seminar (2007-2015);
- Member of the steering committees of LSV (2004-2016);
- Elected member of the Conseil Scientifique of ENS Cachan (2011-2015);

- Member of the committee in charge of Information Systems Security at ENS Cachan (2015-2016);
- Member of the steering committee of “Institut Farman” (federation of five laboratories of ENS Cachan working on complex systems) (2013-2014);
- Member of a “comité de sélection” (recruiting jury) in computer science at University Paul Sabatier (Toulouse) in 2014;
- Member of a “comité de sélection” (recruiting jury) in computer science at University Pierre-et-Marie-Curie (Paris) in 2013;
- Member of a “comité de sélection” (recruiting jury) in mechanical engineering at ENS Cachan in 2012;
- Member of a “comité de sélection” (recruiting jury) in Computer Science at University Paris Nord in 2011;
- Member of the “comité de sélection” (recruiting jury) for the chair INRIA/ENS Cachan in 2009;
- Member of the “commission de spécialistes” in Computer Science, ENS Cachan (2007-2008);

Collective activities

- Head of group “systems” of LSV, about the evolutions of the computer systems and networks (2004-2016);
- Author and maintainer (2004-2016) of the publication list system at LSV (Bib \TeX , PHP);
- Head of the group “database tools” at LSV, whose aim is to design and maintain tools for managing several databases of the lab (list of members, list of books at the library, ...) (PHP, MySQL) (2008-2014);
- Author of the "ordre de mission" management tool at LSV (\TeX , PHP, javascript);
- Head of InstSoft/SOS group (software updates, LSV "hotline") from 2004 to 2010.

Stays in foreign countries

- Several short stays at Aalborg University (Denmark), *Université Libre de Bruxelles* (Belgium), RWTH Aachen (Germany).
- 1-year post-doctoral stay (Sep. 2003–Sep. 2004) at *Université Libre de Bruxelles*, Belgium.
- 4-week stay (Jan-Feb. 2003) in Australia (Department of Electrical and Electronic Engineering, University of Melbourne and Computer Sciences Laboratory, Australian National University in Canberra).

Miscellaneous

- Co-author of the French \TeX F.A.Q., author of a Bib \TeX documentation, author of some \TeX packages.
- Manager of the Climbing Club at ENS Cachan (2001-2003,2004-2008)

Appendix: list of publications

Edited books

- [BDJ⁺16] Thomas Brihaye, Benoît Delahaye, Loïc Jezequel, Nicolas Markey, and Jiří Srba, editors. *Proceedings of the Cassting Workshop on Games for the Synthesis of Complex Systems (Cassting'16) and of the 3rd International Workshop on Synthesis of Complex Parameters (SynCoP'16)*, EPTCS 220, July 2016.
- [FM16] Martin Fränzle and Nicolas Markey, editors. *Proceedings of the 14th International Conferences on Formal Modelling and Analysis of Timed Systems, (FORMATS'16)*, LNCS 9884. Springer, August 2016.
- [MW10] Nicolas Markey and Jef Wijsen, editors. *Proceedings of the 17th International Symposium on Temporal Representation and Reasoning (TIME'10)*. IEEE Comp. Soc. Press, September 2010.
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Chapters in books

- [BFL⁺17] Patricia Bouyer, Uli Fahrenberg, Kim Guldstrand Larsen, Nicolas Markey, Joël Ouaknine, and James Worrell. Model checking real-time systems. In *Handbook of Model Checking*. Springer, 2017. To appear.
- [CM09] Franck Cassez and Nicolas Markey. Control of timed systems. In *Communicating Embedded Systems – Software and Design*, chapter 3, pages 83–120. Wiley-ISTE, October 2009.
- [CM08] Franck Cassez and Nicolas Markey. Contrôle des systèmes temporisés. In *Approches formelles des systèmes embarqués communicants*, chapter 4, pages 105–144. Hermès, October 2008.
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Invited talks and papers, tutorials

- [BMS13b] Patricia Bouyer, Nicolas Markey, and Ocan Sankur. Robustness in timed automata. In RP'13, LNCS 8169, pages 1–18. Springer, September 2013.
- [Mar11] Nicolas Markey. Robustness in real-time systems. In SIES'11, pages 28–34. IEEE Comp. Soc. Press, June 2011.

International Journals

- [BMPS17] Patricia Bouyer, Nicolas Markey, Nicolas Perrin, and Philipp Schlehücker-Caissier. Timed automata abstraction of switched dynamical systems using control funnels. *Real-Time Systems*, 2017. To appear.
- [BMV17] Patricia Bouyer, Nicolas Markey, and Steen Vester. Nash equilibria in symmetric graph games with partial observation. *Information and Computation*, 2017. To appear.
- [BMR⁺17] Patricia Bouyer, Nicolas Markey, Mickael Randour, Kim Guldstrand Larsen, and Simon Laursen. Average-energy games. *Acta Informatica*, 2017. To appear.
- [BGM16] Patricia Bouyer, Patrick Gardy, and Nicolas Markey. On the semantics of strategy logic. *Information Processing Letters*, 116(2):75–79, February 2016.
- [BMS15] Patricia Bouyer, Nicolas Markey, and Ocan Sankur. Robust reachability in timed automata and games: A game-based approach. *Theoretical Computer Science*, 563:43–74, January 2015.
- [BBMU15] Patricia Bouyer, Romain Brenguier, Nicolas Markey, and Michael Ummels. Pure Nash equilibria in concurrent games. *Logical Methods in Computer Science*, 11(2:9), June 2015.
- [LM15] François Laroussinie and Nicolas Markey. Augmenting ATL with strategy contexts. *Information and Computation*, 245:98–123, December 2015.
- [SBM14] Ocan Sankur, Patricia Bouyer, and Nicolas Markey. Shrinking timed automata. *Information and Computation*, 234:107–132, February 2014.
- [LM14] François Laroussinie and Nicolas Markey. Quantified CTL: expressiveness and complexity. *Logical Methods in Computer Science*, 10(4), December 2014.
- [BLM14] Patricia Bouyer, Kim Guldstrand Larsen, and Nicolas Markey. Lower-bound constrained runs in weighted timed automata. *Performance Evaluation*, 73:91–109, March 2014.
- [BMO⁺12] Patricia Bouyer, Nicolas Markey, Joël Ouaknine, Philippe Schnoebelen, and James Worrell. On termination and invariance for faulty channel systems. *Formal Aspects of Computing*, 24(4-6):595–607, July 2012.
- [BFLM11] Patricia Bouyer, Uli Fahrenberg, Kim Guldstrand Larsen, and Nicolas Markey. Quantitative analysis of real-time systems using priced timed automata. *Communications of the ACM*, 54(9):78–87, September 2011.
- [BJL⁺10] Thomas Brihaye, Marc Jungers, Samson Lasaulce, Nicolas Markey, and Ghassan Oreiby. Using model checking for analyzing distributed power control problems. *EURASIP Journal on Wireless Communications and Networking*, 2010(861472), June 2010.
- [BCM10] Patricia Bouyer, Fabrice Chevalier, and Nicolas Markey. On the expressiveness of TPTL and MTL. *Information and Computation*, 208(2):97–116, February 2010.
- [DDMR08] Martin De Wulf, Laurent Doyen, Nicolas Markey, and Jean-François Raskin. Robust safety of timed automata. *Formal Methods in System Design*, 33(1-3):45–84, December 2008.
- [LMO08] François Laroussinie, Nicolas Markey, and Ghassan Oreiby. On the expressiveness and complexity of ATL. *Logical Methods in Computer Science*, 4(2), May 2008.
- [BLM08] Patricia Bouyer, Kim Guldstrand Larsen, and Nicolas Markey. Model checking one-clock priced timed automata. *Logical Methods in Computer Science*, 4(2), May 2008.

- [MS06] Nicolas Markey and Philippe Schnoebelen. Mu-calculus path checking. *Information Processing Letters*, 97(6):225–230, March 2006.
- [MR06] Nicolas Markey and Jean-François Raskin. Model checking restricted sets of timed paths. *Theoretical Computer Science*, 358(2-3):273–292, August 2006.
- [BBM06] Patricia Bouyer, Thomas Brihaye, and Nicolas Markey. Improved undecidability results on weighted timed automata. *Information Processing Letters*, 98(5):188–194, June 2006.
- [LMS06] François Laroussinie, Nicolas Markey, and Philippe Schnoebelen. Efficient timed model checking for discrete-time systems. *Theoretical Computer Science*, 353(1-3):249–271, March 2006.
- [MS04] Nicolas Markey and Philippe Schnoebelen. A PTIME-complete matching problem for SLP-compressed words. *Information Processing Letters*, 90(1):3–6, April 2004.
- [Mar04] Nicolas Markey. Past is for free: On the complexity of verifying linear temporal properties with past. *Acta Informatica*, 40(6-7):431–458, May 2004.
- [Mar03] Nicolas Markey. Temporal logic with past is exponentially more succinct. *EATCS Bulletin*, 79:122–128, February 2003.
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International Conferences

- [BCM16] Patricia Bouyer, Maximilien Colange, and Nicolas Markey. Symbolic optimal reachability in weighted timed automata. In CAV’16, LNCS 9779, pages 513–530. Springer, July 2016.
- [BMS16] Patricia Bouyer, Nicolas Markey, and Daniel Stan. Stochastic equilibria under imprecise deviations in terminal-reward concurrent games. In GandALF’16, EPTCS 226, pages 61–75, September 2016.
- [BMR⁺16] Patricia Bouyer, Nicolas Markey, Mickael Randour, Arnaud Sangnier, and Daniel Stan. Reachability in networks of register protocols under stochastic schedulers. In ICALP’16, LIPIcs 55, pages 106:1–106:14. LZI, July 2016.
- [DLM16] Amélie David, François Laroussinie, and Nicolas Markey. On the expressiveness of QCTL. In CONCUR’16, LIPIcs 59, pages 28:1–28:15. LZI, August 2016.
- [LFM⁺16] Adrien Le Coënt, Laurent Fribourg, Nicolas Markey, Florian De Vuyst, and Ludovic Chamoin. Distributed synthesis of state-dependent switching control. In RP’16, LNCS 9899, pages 119–133. Springer, September 2016.
- [FKM16] Laurent Fribourg, Ulrich Kühne, and Nicolas Markey. Game-based synthesis of distributed controllers for sampled switched systems. In SynCoP’15, OpenAccess Series in Informatics 44, pages 47–61. LZI, April 2016.
- [BGM15] Patricia Bouyer, Patrick Gardy, and Nicolas Markey. Weighted strategy logic with boolean goals over one-counter games. In FSTTCS’15, LIPIcs 45, pages 69–83. LZI, December 2015.
- [BMPS15] Patricia Bouyer, Nicolas Markey, Nicolas Perrin, and Philipp Schlehüser-Caissier. Timed automata abstraction of switched dynamical systems using control funnels. In FORMATS’15, LNCS 9268, pages 60–75. Springer, September 2015.
- [LMS15] François Laroussinie, Nicolas Markey, and Arnaud Sangnier. ATL_{SC} with partial observation. In GandALF’15, EPTCS 193, pages 43–57, September 2015.

- [BFM15] Patricia Bouyer, Erwin Fang, and Nicolas Markey. Permissive strategies in timed automata and games. In *AVOCS'15*, Electronic Communications of the EASST 72. EASST, September 2015.
- [BJM15] Patricia Bouyer, Samy Jaziri, and Nicolas Markey. On the value problem in weighted timed games. In *CONCUR'15*, LIPIcs 42, pages 311–324. LZI, September 2015.
- [AM15] Étienne André and Nicolas Markey. Language preservation problems in parametric timed automata. In *FORMATS'15*, LNCS 9268, pages 27–43. Springer, September 2015.
- [BMR⁺15] Patricia Bouyer, Nicolas Markey, Mickael Randour, Kim Guldstrand Larsen, and Simon Laursen. Average-energy games. In *GandALF'15*, EPTCS 193, pages 1–15, September 2015.
- [DJL⁺14] Laurent Doyen, Line Juhl, Kim Guldstrand Larsen, Nicolas Markey, and Mahsa Shri-mohammadi. Synchronizing words for weighted and timed automata. In *FSTTCS'14*, LIPIcs 29, pages 121–132. LZI, December 2014.
- [MV14] Nicolas Markey and Steen Vester. Symmetry reduction in infinite games with finite branching. In *ATVA'14*, LNCS 8837, pages 281–296. Springer, November 2014.
- [BGM14] Patricia Bouyer, Patrick Gardy, and Nicolas Markey. Quantitative verification of weighted Kripke structures. In *ATVA'14*, LNCS 8837, pages 64–80. Springer, November 2014.
- [BMV14] Patricia Bouyer, Nicolas Markey, and Steen Vester. Nash equilibria in symmetric games with partial observation. In *SR'14*, EPTCS 146, pages 49–55, March 2014.
- [BMS14] Patricia Bouyer, Nicolas Markey, and Daniel Stan. Mixed Nash equilibria in concurrent games. In *FSTTCS'14*, LIPIcs 29, pages 351–363. LZI, December 2014.
- [SLS⁺14] Youcheng Sun, Giuseppe Lipari, Romain Soulat, Laurent Fribourg, and Nicolas Markey. Component-based analysis of hierarchical scheduling using linear hybrid automata. In *RTCSA'14*. IEEE Comp. Soc. Press, August 2014.
- [BMM14] Patricia Bouyer, Nicolas Markey, and Raj Mohan Matteplackel. Averaging in LTL. In *CONCUR'14*, LNCS 8704, pages 266–280. Springer, September 2014.
- [LM13] François Laroussinie and Nicolas Markey. Satisfiability of ATL with strategy contexts. In *GandALF'13*, EPTCS 119, pages 208–223, August 2013.
- [BMS13a] Patricia Bouyer, Nicolas Markey, and Ocan Sankur. Robust weighted timed automata and games. In *FORMATS'13*, LNCS 8053, pages 31–46. Springer, August 2013.
- [SBMR13] Ocan Sankur, Patricia Bouyer, Nicolas Markey, and Pierre-Alain Reynier. Robust controller synthesis in timed automata. In *CONCUR'13*, LNCS 8052, pages 546–560. Springer, August 2013.
- [BMS12] Patricia Bouyer, Nicolas Markey, and Ocan Sankur. Robust reachability in timed automata: a game-based approach. In *ICALP'12*, LNCS 7392, pages 128–140. Springer, July 2012.
- [DLM12] Arnaud Da Costa, François Laroussinie, and Nicolas Markey. Quantified CTL: Expressiveness and model checking. In *CONCUR'12*, LNCS 7454, pages 177–192. Springer, September 2012.
- [BLM12] Patricia Bouyer, Kim Guldstrand Larsen, and Nicolas Markey. Lower-bound constrained runs in weighted timed automata. In *QEST'12*, pages 128–137. IEEE Comp. Soc. Press, September 2012.
- [BBMU12] Patricia Bouyer, Romain Brenguier, Nicolas Markey, and Michael Ummels. Concurrent games with ordered objectives. In *FoSSaCS'12*, LNCS 7213, pages 301–315. Springer, March 2012.

- [BLM⁺11] Patricia Bouyer, Kim Guldstrand Larsen, Nicolas Markey, Ocan Sankur, and Claus Thrane. Timed automata can always be made implementable. In CONCUR'11, LNCS 6901, pages 76–91. Springer, September 2011.
- [SBM11] Ocan Sankur, Patricia Bouyer, and Nicolas Markey. Shrinking timed automata. In FSTTCS'11, LIPIcs 13, pages 90–102. LZI, December 2011.
- [BMS11] Patricia Bouyer, Nicolas Markey, and Ocan Sankur. Robust model-checking of timed automata via pumping in channel machines. In FORMATS'11, LNCS 6919, pages 97–112. Springer, September 2011.
- [BBMU11] Patricia Bouyer, Romain Brenguier, Nicolas Markey, and Michael Ummels. Nash equilibria in concurrent games with Büchi objectives. In FSTTCS'11, LIPIcs 13, pages 375–386. LZI, December 2011.
- [BMOU11] Patricia Bouyer, Nicolas Markey, Jörg Olschewski, and Michael Ummels. Measuring permissiveness in parity games: Mean-payoff parity games revisited. In ATVA'11, LNCS 6996, pages 135–149. Springer, October 2011.
- [BFLM10] Patricia Bouyer, Uli Fahrenberg, Kim Guldstrand Larsen, and Nicolas Markey. Timed automata with observers under energy constraints. In HSCC'10, pages 61–70. ACM Press, April 2010.
- [BBM10] Patricia Bouyer, Romain Brenguier, and Nicolas Markey. Nash equilibria for reachability objectives in multi-player timed games. In CONCUR'10, LNCS 6269, pages 192–206. Springer, September 2010.
- [HBM⁺10] Paul Hunter, Patricia Bouyer, Nicolas Markey, Joël Ouaknine, and James Worrell. Computing rational radical sums in uniform TC⁰. In FSTTCS'10, LIPIcs 8, pages 308–316. LZI, December 2010.
- [BBM10] Patricia Bouyer, Romain Brenguier, and Nicolas Markey. Computing equilibria in two-player timed games *via* turn-based finite games. In FORMATS'10, LNCS 6246, pages 62–76. Springer, September 2010.
- [DLM10] Arnaud Da Costa, François Laroussinie, and Nicolas Markey. ATL with strategy contexts: Expressiveness and model checking. In FSTTCS'10, LIPIcs 8, pages 120–132. LZI, December 2010.
- [BDMR09] Patricia Bouyer, Marie Dufлот, Nicolas Markey, and Gabriel Renault. Measuring permissivity in finite games. In CONCUR'09, LNCS 5710, pages 196–210. Springer, September 2009.
- [BDLM09] Thomas Brihaye, Arnaud Da Costa, François Laroussinie, and Nicolas Markey. ATL with strategy contexts and bounded memory. In LFCS'09, LNCS 5407, pages 92–106. Springer, January 2009.
- [BMR08] Patricia Bouyer, Nicolas Markey, and Pierre-Alain Reynier. Robust analysis of timed automata via channel machines. In FoSSaCS'08, LNCS 4962, pages 157–171. Springer, March-April 2008.
- [BBBM08] Nathalie Bertrand, Patricia Bouyer, Thomas Brihaye, and Nicolas Markey. Quantitative model-checking of one-clock timed automata under probabilistic semantics. In QEST'08, pages 55–64. IEEE Comp. Soc. Press, September 2008.
- [BMO⁺08] Patricia Bouyer, Nicolas Markey, Joël Ouaknine, Philippe Schnoebelen, and James Worrell. On termination for faulty channel machines. In STACS'08, LIPIcs 1, pages 121–132. LZI, February 2008.

- [BMOW08] Patricia Bouyer, Nicolas Markey, Joël Ouaknine, and James Worrell. On expressiveness and complexity in real-time model checking. In ICALP'08, LNCS 5126, pages 124–135. Springer, July 2008.
- [BFL⁺08] Patricia Bouyer, Uli Fahrenberg, Kim Guldstrand Larsen, Nicolas Markey, and Jiří Srba. Infinite runs in weighted timed automata with energy constraints. In FORMATS'08, LNCS 5215, pages 33–47. Springer, September 2008.
- [BGMR08] Thomas Brihaye, Mohamed Ghannem, Nicolas Markey, and Lionel Rieg. Good friends are hard to find! In TIME'08, pages 32–40. IEEE Comp. Soc. Press, June 2008.
- [BLMO07] Thomas Brihaye, François Laroussinie, Nicolas Markey, and Ghassan Oreiby. Timed concurrent game structures. In CONCUR'07, LNCS 4703, pages 445–459. Springer, September 2007.
- [LMO07] François Laroussinie, Nicolas Markey, and Ghassan Oreiby. On the expressiveness and complexity of ATL. In FoSSaCS'07, LNCS 4423, pages 243–257. Springer, March 2007.
- [BLM07] Patricia Bouyer, Kim Guldstrand Larsen, and Nicolas Markey. Model checking one-clock priced timed automata. In FoSSaCS'07, LNCS 4423, pages 108–122. Springer, March 2007.
- [BM07] Patricia Bouyer and Nicolas Markey. Costs are expensive! In FORMATS'07, LNCS 4763, pages 53–68. Springer, October 2007.
- [BMOW07] Patricia Bouyer, Nicolas Markey, Joël Ouaknine, and James Worrell. The cost of punctuality. In LICS'07, pages 109–118. IEEE Comp. Soc. Press, July 2007.
- [BMR06] Patricia Bouyer, Nicolas Markey, and Pierre-Alain Reynier. Robust model-checking of linear-time properties in timed automata. In LATIN'06, LNCS 3887, pages 238–249. Springer, March 2006.
- [LMO06] François Laroussinie, Nicolas Markey, and Ghassan Oreiby. Model-checking timed ATL for durational concurrent game structures. In FORMATS'06, LNCS 4202, pages 245–259. Springer, September 2006.
- [BLMR06] Patricia Bouyer, Kim Guldstrand Larsen, Nicolas Markey, and Jacob Illum Rasmussen. Almost optimal strategies in one-clock priced timed automata. In FSTTCS'06, LNCS 4337, pages 345–356. Springer, December 2006.
- [BCM05] Patricia Bouyer, Fabrice Chevalier, and Nicolas Markey. On the expressiveness of TPTL and MTL. In FSTTCS'05, LNCS 3821, pages 432–443. Springer, December 2005.
- [MS04] Nicolas Markey and Philippe Schnoebelen. Symbolic model checking for simply timed systems. In FORMATS-FTRTFT'04, LNCS 3253, pages 102–117. Springer, September 2004.
- [DDMR04] Martin De Wulf, Laurent Doyen, Nicolas Markey, and Jean-François Raskin. Robustness and implementability of timed automata. In FORMATS-FTRTFT'04, LNCS 3253, pages 118–133. Springer, September 2004.
- [DCMM04] Jenifer Davoren, Vaughan Coulthard, Nicolas Markey, and Thomas Moor. Non-deterministic temporal logics for general flow systems. In HSCC'04, LNCS 2993, pages 280–295. Springer, March-April 2004.
- [LMS04] François Laroussinie, Nicolas Markey, and Philippe Schnoebelen. Model checking timed automata with one or two clocks. In CONCUR'04, LNCS 3170, pages 387–401. Springer, August-September 2004.
- [MR04] Nicolas Markey and Jean-François Raskin. Model checking restricted sets of timed paths. In CONCUR'04, LNCS 3170, pages 432–447. Springer, August-September 2004.

- [MS03] Nicolas Markey and Philippe Schnoebelen. Model checking a path (preliminary report). In CONCUR'03, LNCS 2761, pages 251–265. Springer, August-September 2003.
- [LMS02] François Laroussinie, Nicolas Markey, and Philippe Schnoebelen. Temporal logic with forgettable past. In LICS'02, pages 383–392. IEEE Comp. Soc. Press, July 2002.
- [Mar02] Nicolas Markey. Past is for free: On the complexity of verifying linear temporal properties with past. In EXPRESS'02, ENTCS 68, pages 89–106. Elsevier, August 2002.
- [LMS02] François Laroussinie, Nicolas Markey, and Philippe Schnoebelen. On model checking durational Kripke structures (extended abstract). In FoSSaCS'02, LNCS 2303, pages 264–279. Springer, April 2002.
- [LMS01] François Laroussinie, Nicolas Markey, and Philippe Schnoebelen. Model checking CTL⁺ and FCTL is hard. In FoSSaCS'01, LNCS 2030, pages 318–331. Springer, April 2001.
-

Thesis dissertations

- [Mar11] Nicolas Markey. *Verification of Embedded Systems – Algorithms and Complexity*. Mémoire d'habilitation, École Normale Supérieure de Cachan, France, April 2011.
- [Mar03] Nicolas Markey. *Logiques temporelles pour la vérification : expressivité, complexité, algorithmes*. Thèse de doctorat, Lab. Informatique Fondamentale d'Orléans, France, April 2003.
- [Mar00] Nicolas Markey. Complexité de la logique temporelle avec passé. Rapport de DEA, Lab. Spécification & Vérification, ENS Cachan, France, June 2000.
-

Other Publications

- [CLMT15] Krishnendu Chatterjee, Stéphane Lafortune, Nicolas Markey, and Wolfgang Thomas, editors. *Non-Zero-Sum-Games and Control (Dagstuhl Seminar 15061)*. LZI, June 2015.
- [Mar14] Nicolas Markey. Casting: Synthesizing complex systems using non-zero-sum games. *ERCIM News*, 97:25–26, April 2014.
- [SVMdM12] Diego V. Simões De Sousa, Henrique Viana, Nicolas Markey, and Jose Antônio F. de Macêdo. Querying trajectories through model checking based on timed automata. In SBBD'12, pages 33–40. Sociedade Brasileira de Computação, October 2012.
- [AMRT05] Karine Altisen, Nicolas Markey, Pierre-Alain Reynier, and Stavros Tripakis. Implémentabilité des automates temporisés. In MSR'05, pages 395–406. Hermès, October 2005.
- [MS04] Nicolas Markey and Philippe Schnoebelen. Tsmv: Symbolic model checking for simply timed systems. In QEST'04, pages 330–331. IEEE Comp. Soc. Press, September 2004.
- [Mar04] Nicolas Markey. Tsmv : model-checking symbolique de systèmes simplement temporisés. In AFADL'04, June 2004.